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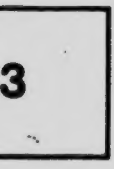

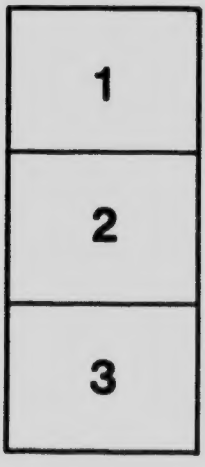

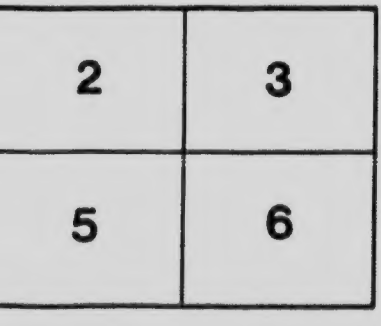

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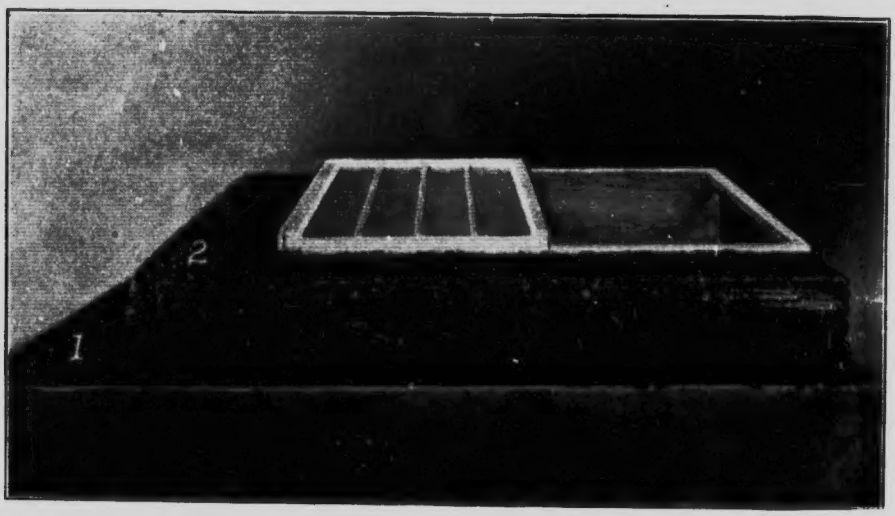
HOW TO MAKE AND USE HOTBEDS AND COLD FRAMES

BY

W. T. MACOUN.



Outside View of Hot-bed.
(1) Ground level. (2) Manure.

DOMINION EXPERIMENTAL FARMS.

J. H. GRISDALE, B.Agr.,
Director.

W. T. MACOUN,
Dominion Horticulturist.

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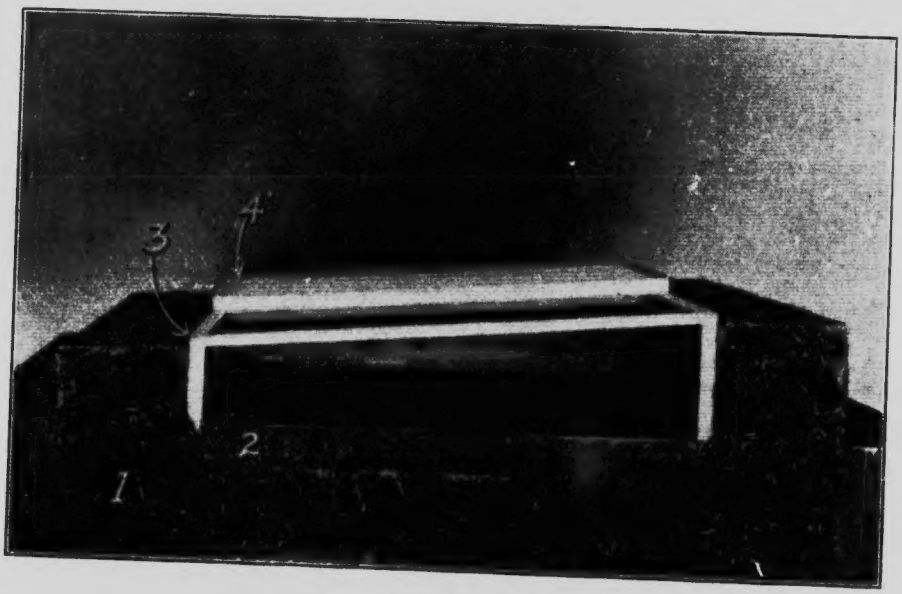
In making a hotbed, the first step is to choose a good situation on the south side of a building, wall or close board fence where the cold winds from the north will be broken and all the sunshine possible will be obtained. After deciding on the site, the frame should be made. The simplest frame is one made out of two-inch planks. It should be so constructed that it may be raised, as this may be necessary if the plants get too close to the glass. The frame should be at least six inches higher at the back than at the front, in order that the rain will run off readily and that the plants get more sunshine. The sashes generally used are three by six feet. A hotbed may be made either above or below ground. If above ground, it may be made in any situation where the water is not likely to lie. The one below ground is usually preferable if it can be made where the land is high and well drained. To make the latter, the soil should be taken out to the depth of about eighteen inches or more and about three feet wider than the frame so that there will be room for banking. The banking is a



Sectional View of Hot-beds.
(1) Manure. (2) Soil. (3) Frame. (4) Sash.

very important part of the construction of a hotbed as the conservation of heat in the bed depends very much upon it. It will be readily seen that much labour will be saved by doing the necessary excavation for the frame in the autumn when there is no frost in the ground. Horse manure is the best to use in making the hotbed and it should be quite fresh, not cold and rotten, and not already heated. It should be piled near where the hotbed is to be, and when it begins to heat it should be turned to make it of more uniform consistency. Five or six days after turning, it should be quite hot and is now ready for use. The bed is started from one end and the manure shaken in from a fork so that the long and short manure will be well mixed. When one layer is made it should be tramped well and then another layer started, and so on, tramping each layer well until the manure is the depth required. The depth will de[illegible]d on when the bed is made. If made early, the manure should be from two to two and a half feet in depth, but if made during the latter part of March when the weather is not very cold, about a foot of manure will suffice. After the manure has been put in, the frame should be placed on and then about four to six inches more manure put in and banked well around the sides of the frame, both inside and out. Outside, the

manure should be banked to the top of the frame and from twelve to fifteen inches in width. The bed is now ready for the lights and the frame should be so constructed that they will fit snugly. Shelters made of one-inch lumber the same size as the sashes are useful for covering them, as they help to conserve the heat in cold weather. In two or three days the sash should be removed, the manure given a tramp all over, making it level where necessary, and then the soil put on. To get the best results the soil should be prepared the previous autumn and left in a pile over winter. It should be rich and of such a character that it will not bake. The soil should be from five to six inches in depth over the manure, and it is better to have it a little deep than too shallow. The soil when it is put in should come near the top of the frame at the lower side as the manure will sink considerably, and the nearer the plants are to the glass later on the stockier they will be. In five or six days the hotbed will be ready for the seed, but it is necessary to wait until the manure has cooled a little and the temperature has fallen to between 80 degrees Fahrenheit and 90 degrees Fahrenheit. During this time when it is hottest, some of the heat may be allowed to escape by raising the sashes a little every day. One should not be in a hurry to sow the seed, as if the temperature is too high the results will not be satisfactory. When the bed has reached the right temperature the soil should be spaded over a couple of times and the surface levelled and made fine with the rake. The bed is now ready for sowing. The seed is usually sown in rows about four inches apart and about the same depth as outside. When the young plants come up the frame should be kept sufficiently aired by raising the back of the sash to prevent the plants from getting spindly or weakly, when they are apt to damp off. Flats or boxes 12 by 18 inches in size containing three to four inches of soil are convenient for handling the plants. There should be thorough drainage in the flats or boxes which can be obtained by boring about five half-inch holes in the bottoms. Where these are used, it is not necessary to put much soil over the manure, the flats or boxes being set in the frame. Sometimes if the manure is too hot the roots of the plants are injured in the flats and if there is danger of this they should be set on laths to leave an air space between the flat and the manure. Care should be taken to prevent the plants being chilled or frozen. The soil must be watered when necessary, care being taken not to overdo this as the plants would then be likely to damp off. As soon as the plants are large enough they are pricked out into another sash or frame.

COLD FRAME.

A cold frame is much like a hotbed in appearance, but is without manure. It is used either for seeds or for growing plants taken from the hotbed before they can be set out in the open; or it may also be used by those who start plants in the house and who cannot get or do not wish to use manure.

A well protected place is chosen in the autumn and rich friable soil, six inches or more in depth, is put where the frame is to be placed. This soil and the ground about should be protected from frost by leaves or litter, which should not contain weed seeds. By thus mulching the soil in the autumn, when the time comes for planting in the spring there will be no frost in the ground about the frame. A frame should now be made with sides and ends of twelve-inch boards, preferably two inches in thickness and placed on a slope so that the back part of the frame is six inches higher than the front. The frame is now placed over the soil. As hotbed sashes are six by three feet in size, the frame should be made to accommodate one or more of them. The soil is now well spaded and the frame protected from frost by earthing up outside or banking with manure. If the glass sash is over the top a few days before it is time to sow or set out the plants, the soil will be warmed up sufficiently. Cotton is sometimes used for covering cold frames instead of glass, and quite satisfactory results are obtained, but where late severe frosts are liable to occur glass is safer. Plants should

not be taken out of the house and pl
injured. The same attention in regard
the cold frame as to the hotbed. By
advanced when it is time to set them

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se and planted in cold soil or they will be chilled and
in regard to watering and ventilation should be given to
bed. By the use of a cold frame, plants will be well
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